June 08, 2000

DSSD CENSUS 2000 PROCEDURES AND OPERATIONS MEMORANDUM SERIES V-3

MEMORANDUM FOR	John Long Chief, Population Division
Attn:	Data Products Program Steering Committee
From:	Howard Hogan Chief, Decennial Statistical Studies Division
Prepared By:	Michael D. Starsinic and Robert D. Sands Decennial Statistical Studies Division
Subject:	Alternatives for Generalized Variance Function Table Shells for Census 2000

This memorandum offers several alternatives for the layout and content of the generalized variance function parameter tables which will be published with the PL94-171 data release in March/April 2000. The alternatives listed below are just a few of the possible alternatives for the layout of the tables, and the options given here are not meant to be all-inclusive, nor should they be interpreted as the only options that will be considered, but they are simply meant to be a basis for the initiation of discussion. We welcome comments on which of the column, row, and independent options listed in this memorandum to employ, and also suggestions for further options not listed. Please submit your comments to Michael Starsinic (x1638), Robert Sands (x4255), or Alfredo Navarro (x4251) by Friday, June 23, 2000.

Attachments

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I. Introduction & Request for Comments

The results of the Census 2000 Accuracy and Coverage Evaluation Survey will be used to adjust the 2000 Census counts to improve coverage of the population. Printed publications, electronic media, and other data products released with the 2000 Census 100 Percent (Short Form) data adjusted for coverage require information on the accuracy of the adjusted data. Variance estimates of these adjusted estimates will be calculated for the whole United States, the 50 States, the District of Columbia, and Puerto Rico. These variance estimates will be released to the public. In addition, variance estimates will be calculated directly for small area estimates. These direct small area variance estimates will then be used as input to a data modeling process that will create Generalized Variance Function (GVF) parameters. For data dissemination purposes, data users will be furnished with the GVF parameters for each Public Law data item for each State. The users will be instructed on how to use the GVF parameters to calculate variance estimate for totals, means, medians, proportions, and difference estimates for each data item or pair of data items for any geographic area below state (down to census block). This document describes several alternatives for how the parameters for each Public Law data item and State can be presented to the data user in the Census 2000 data products.

II. GVF Parameter Tables Alternatives

The set of Public Law (PL) data items are in effect a set of Race/Hispanic Origin and Age categories for which 2000 Census PL population count estimates must be published. These comprise some 288 categories in all. Alternatives are given for the presentation of these categories, including collapsing some categories and even adding others to make the presentation more user-friendly.

A. Column Alternatives

Below are four options for displaying age and Hispanic origin information in the columns of the generalized variance parameter tables.
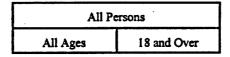
Column Option 1 - Default

The default column organization, the one suggested by the PL categories, crosses two age categories (all persons and 18 & over) by two Hispanic origin categories (all persons and Non-Hispanic) to give four columns.

All Persons		Non-Hispanic	
All Ages	18 & Over	All Ages	18 & over

Column Option 2 - Compressed over Hispanic Origin

The second option removes the non-Hispanic category, leaving just two columns, All Ages and 18 & Over.

All Persons	
All Ages	18 and Over

The third & fourth option correspond to Options 1 and 2, but with a third age category, Under 18, added. While not an explicitly defined category in the PL estimates, it can easily be obtained by subtraction. The category isn't needed for the primary use of the PL data - redistricting - but it will be of interest to other users. In the Technical Documentation from the Census 2000 Dress Rehearsal, an example was given on how to obtain the variance for a difference (i.e. All Ages - 18 & Over), but supplying the parameters would make computations easier for the user.

Column Option 3 - Age Augmented

All Persons			Non-Hispanic		
All Ages	Under 18	18 & Over	All Ages	Under 18	18 & Over

Column Option 4 - Compressed over Hispanic Origin, Age Augmented

All Persons		
All Ages	Under 18	18 & Over

B. Row Alternatives

Below are five options for displaying race and Hispanic origin information for the rows of the generalized variance parameter tables. Note that All Persons, Hispanic, White alone, Black alone, American Indian and Alaska Native (AIAN) alone, Asian alone, Native Hawaiian and Other Pacific Islander (NHPI) alone, and Some Other Race (SOR) alone appear on all options.

Row Option 1: No Specific Multiple Race Responses (8 + 1)	Row Options 2, 3: Same Set of Specific Mult. Race Responses for All States (8 + n, same set for each state)	Row Option 4: Set of Specific Multiple Race Responses Defined State-By-State (8 + n_s per state)	Row Option 5: All Specific Multiple Race Responses (8 + 57)
All Persons	All Persons	All Persons	All Persons
Hispanic	Hispanic	Hispanic	Hispanic
White alone	White alone	White alone	White alone
Black alone	Black alone	Black alone	Black alone
AIAN alone	AIAN alone	AIAN alone	AIAN alone
Asian alone	Asian alone	Asian alone	Asian alone
NHPI alone	NHPI alone	NHPI alone	NHPI alone
SOR alone	SOR alone	SOR alone	SOR alone
2 or More Races	Mult. Race Response 1_{US}	M.R.R. 1_{STATE}	M.R.R. 1
	...	...	...
	M.R.R. N_{US}	M.R.R. N_{STATE}	M.R.R. 57
	All Other 2 or More Race Combinations	All Other 2 or More Race Combinations	

Row Option One - No Specific Multiple Race Responses

In this option, no individual multiple race response categories are listed. All persons listing more than one race are included in the "2 or More Races" row.

Row Option Two - "National Multiple Race Response" Categories

All multiple race response categories which meet a certain threshold percentage of the national population would be included in all state tables, regardless of the population size of that group in the individual states. The remaining multiple race response individuals would be placed into a single "catch-all" category.

Row Option Three - "Most Diverse" Multiple Race Response Categories

Select all the multiple race response combinations meeting the threshold in any state, and include all these combinations for each state, with the remainder in a separate category.

Row Option Four - "By State" Multiple Race Response categories

Instead of on a national basis, the thresholds for printing variance parameters could be applied state-by-state. Only those categories above the threshold in the state would be in the state's table, with the remaining categories combined into one.

Row Option Five - Full (57) Multiple Race Response Categories

Include all 57 multiple race response categories in the generalized variance tables.

C. Independent Row Options

There are also three "independent" row options, which could be applied to any of the above five (or any other) row options:

- In the full (288) list of PL items, there are 6 "N Race" categories - all persons of one race, all persons of two races, ..., all persons of six races. We can include them all, include a subset, or omit them all.

- Instead of including a "remainder" multiple race response category, instruct the user which parameter values to use if they want an estimate of a group that was not specifically included.

- In the main row options, we always include all six of the "single race" categories in all tables. What about states where they do not meet the threshold (e.g. Pacific Islanders in Vermont)? Could we omit or use a remainder category for single race groups which do not meet the threshold?

Example Table 1:
Column Option 2 with Row Option 1
(9 x 2 = 18 parameter pairs)

[state]	All Ages		18 Years and Over	
All Persons	a	b	a	b
Hispanic or Latino	a	b	a	b
White Alone	a	b	a	b
Black or African American Alone	a	b	a	b
American Indian and Alaska Native Alone	a	b	a	b
Asian Alone	a	b	a	b
Native Hawaiian and Other Pacific Islander Alone	a	b	a	b
Some Other Race Alone	a	b	a	b
2 or More Races	a	b	a	b

Example Table 2:
Column Option 3 with Row Option 2/3/4, (21 x 6 - 3 = 123 parameter pairs)
[Multiple race response groups here are those > 0.1% of total pop in Sacramento 98 DR]

[state]	All Persons						Not Hispanic or Latino					
	All Ages		Under 18		18 & Over		All Ages		Under 18		18 & Over	
All Persons	a	b	a	b	a	b	a	b	a	b	a	b
Hispanic or Latino	a	b	a	b	a	b	X	X	X	X	X	X
White Alone	a	b	a	b	a	b	a	b	a	b	a	b
Black or African American Alone	a	b	a	b	a	b	a	b	a	b	a	b
American Indian and Alaska Native Alone	a	b	a	b	a	b	a	b	a	b	a	b
Asian Alone	a	b	a	b	a	b	a	b	a	b	a	b
Native Hawaiian and Other Pacific Islander Alone	a	b	a	b	a	b	a	b	a	b	a	b
Some Other Race Alone	a	b	a	b	a	b	a	b	a	b	a	b
White; Black or African American	a	b	a	b	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native	a	b	a	b	a	b	a	b	a	b	a	b
White; Asian	a	b	a	b	a	b	a	b	a	b	a	b
White; Some Other Race	a	b	a	b	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native	a	b	a	b	a	b	a	b	a	b	a	b
Black or African American; Asian	a	b	a	b	a	b	a	b	a	b	a	b
Black or African American; Some Other Race	a	b	a	b	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b	a	b	a	b
Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b	a	b	a	b
Asian; Some Other Race	a	b	a	b	a	b	a	b	a	b	a	b
Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b	a	b	a	b
White; Black or African American; Asian	a	b	a	b	a	b	a	b	a	b	a	b
All Other Combinations of Two or More Races	a	b	a	b	a	b	a	b	a	b	a	b

Example Table 3:
Column Option 1 with Row Option 5 and Independent Option 1 (Full PL Definitions)
(72 x 4 - 2 = 286 parameter pairs (in "288", All Persons and All Persons 18 & Over included twice))

[state]	All Persons				Not Hispanic or Latino			
	All Ages		18 and Over		All Ages		18 and Over	
All Persons	a	b	a	b	a	b	a	b
Hispanic or Latino	a	b	a	b	X	X	X	X
Population of One Race	a	b	a	b	a	b	a	b
White Alone	a	b	a	b	a	b	a	b
Black or African American Alone	a	b	a	b	a	b	a	b
American Indian and Alaska Native Alone	a	b	a	b	a	b	a	b
Asian Alone	a	b	a	b	a	b	a	b
Native Hawaiian and Other Pacific Islander Alone	a	b	a	b	a	b	a	b
Some Other Race Alone	a	b	a	b	a	b	a	b
Population of Two or More Races:	a	b	a	b	a	b	a	b
Population of Two Races:	a	b	a	b	a	b	a	b
White; Black or African American	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native	a	b	a	b	a	b	a	b
White; Asian	a	b	a	b	a	b	a	b
White; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native	a	b	a	b	a	b	a	b
Black or African American; Asian	a	b	a	b	a	b	a	b
Black or African American; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
Black or African American; Some Other Race	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Asian	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Some Other Race	a	b	a	b	a	b	a	b
Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
Asian; Some Other Race	a	b	a	b	a	b	a	b
Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b

Population of Three Races:	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native	a	b	a	b	a	b	a	b
White; Black or African American; Asian	a	b	a	b	a	b	a	b
White; Black or African American; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; Black or African American; Some Other Race	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Asian	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Some Other Race	a	b	a	b	a	b	a	b
White; Asian; Native Hawaiian and Other Pacific Islander;	a	b	a	b	a	b	a	b
White; Asian; Some Other Race	a	b	a	b	a	b	a	b
White; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native; Asian	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native;	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native;	a	b	a	b	a	b	a	b
Black or African American; Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
Black or African American; Asian; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Asian; Some Other Race	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Population of Four Races	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Asian	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Some Other Race	a	b	a	b	a	b	a	b

White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; Black or African American; Asian; Some Other Race	a	b	a	b	a	b	a	b
White; Black or African American; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	a	b	a.	b	a	b	a	b
White; American Indian and Alaska Native; Asian; Some Other Race	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
White; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native; Asian; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Population of Five Races	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Asian; Some Other Race	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
White; Black or African American; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
White; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b
Population of Six Races	a	b	a	b	a	b	a	b
White; Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; Some Other Race	a	b	a	b	a	b	a	b